Name:

p1103: Factoring with box when a = prime (v1)

Example

Use the box to factor $2x^2 - 9x - 18$.

Guess and check, based on factor pairs of -18, until you find the pair that results in a linear coefficient of -9 after combining like terms.

*	x	−6
2x	$2x^2$	−12x
3	3x	−18

$2x^2 - 12x + 3x - 18$

Combine like terms.

$2x^2 - 9x - 18$

ANSWER: $(2x + 3)(x - 6)$

Question 1

Use the box to factor $3x^2 + 31x + 56$.

*	x	8
3x	$3x^2$	24x
7	7x	56

ANSWER: $(3x + 7)(x + 8)$

Question 2

Use the box to factor $5x^2 - 3x - 14$.

*	x	-2
$5x$	$5x^2$	$-10x$
7	$7x$	-14

ANSWER: $(5x + 7)(x - 2)$

Question 3

Use the box to factor $7x^2 - 61x + 40$.

*	x	-8
$7x$	$7x^2$	$-56x$
-5	$-5x$	40

ANSWER: $(7x - 5)(x - 8)$